From Walking Simulator to Reflective Simulator: A Practice-Based Perspective

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Abstract

The aim of this paper is to contribute both theoretically and methodologically to discussions on walking simulator video games. We base our reflection on results grounded in a video game design project conducted as part of our master's thesis. Our research perspective is rooted in pragmatist and constructivist theories of design, such as the epistemology of practice (Schön, 1983; 1992) and project-grounded research (Findeli, 2005). To define the player's experience, we relied on John Dewey's (1934) concept of aesthetic experience. In this context, an individual's experience is characterised as reflective, i.e., meaningful, introspective, creative, and situated. Our project consisted in designing a tailored reflective experience for a unique player—the designer's younger sister. This involved creating a playable prototype featuring gameplay characteristics that game theorists and critics might consider elements of a walking simulator. We describe how the player had a reflective experience both during her interaction with the game and thereafter. Adopting a reflective approach allowed us to better describe and appreciate the life-changing potential of simulators and to ultimately shed light on their capabilities, rather than concentrate on their limitations (Clarke, 2017). We therefore propose a new label, namely, "reflective simulator," as a way to contribute to theoretical discussions about walking simulators. This case study provides a methodological contribution to the field of game studies by describing and reflecting upon the theoretical anchors underpinning game design.

Keywords

Game design; player experience; reflective practice; walking simulator; design theory

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Introduction

Video games are increasingly being recognised as an art form, in addition to being compared to actual life experiences (Muriel & Crawford, 2018). Game designers can therefore ask themselves how a video game can inspire and guide a player in real life. This is precisely what creative director Brie Code (2016) is seeking in her approach to game design: "I'm interested in care, ... in finding a path forward inside games that helps me find my path forward in life ... I want to make games that help other people understand life" (para. 31). Code wants to create games for her friends who do not like video games and exclude themselves from an industry that is focused on the interests and tastes of young white men. As she states, "my friends want not to be repulsed, to recognise their own tastes, and to find depth" (para. 23). She believes her friends would be more interested in a gaming experience that allows them to learn or even be transformed.

As game designers and researchers, we adopt Code's perspective regarding the design of such experiences in video games. Although our goal is to contribute to the field of game studies, our questioning takes place in the context of a game design research perspective, which fits more naturally within design theories (Chiapello, 2015; Kuittinen & Holopainen, 2009; Kultima, 2015). This research approach echoes several recent criticisms that have been advanced in game studies, such as the limitations researchers face when providing information on game production practices (O'Donnell, 2014; Whitson, 2018). It should be mentioned that some researchers identifying with this research approach refer to the epistemology of practice (Schön, 1983; 1987) in a bid to lend greater meaning to the game design process (Kultima, 2015) and to the creativity of game designers (Chiapello, 2015). This research approach aims to favour methodologies that appeal directly to practitioners in real situations.

This article presents our reflection on the walking simulator genre and its potential to create a transformative experience for the player. As part of a practice-based research endeavour, our reflection is founded on the results obtained during a video game design project. The initial goal of the project was to understand how to create a meaningful, transformative, and fundamentally subjective game-mediated experience. Faced with an experimental project, our intention was to create a video game designed to be played by one person only: Alexandra's younger sister, Florence. A further exploration of this goal led us to design and develop a playable prototype, guided by a "fuller" user experience. Notably, the concepts stemming from John Dewey's (1910; 1934; 1938) pragmatist philosophy allowed us to conceptualise an aesthetic and reflective experience for the player. Although our prototype was not originally designed to be a walking simulator, the exploration-based mechanics and elaborated visuals of our game resemble the general characteristics of this genre. In the end we

validated the game experience with Florence during a playtest session, at which time she was first informed that she was the main protagonist of the game.

This article focuses on the results obtained during the validation phase, and an analysis of the player's experience. Based on these results, our first contribution is theoretical: We propose a new label, namely a "reflective simulator," in a bid to enrich existing theories regarding the potential of walking simulators in facilitating transformative experiences. Our second contribution seeks to enrich the methodological approaches currently used for researching games and game design practices by centralising the point of view of designers.

In the next section, we present the framework used to design and analyse the player's experience as mediated by our reflective simulator game prototype. Then, we briefly describe the theoretical and epistemological foundations of the research project. Key elements are then presented to allow for a better understanding of the entire design project, including our intentions, our design process, the player herself, and the prototype we made. Next, we describe the validation phase with the player and analyse her experience in the results section. Lastly, we discuss the most significant insights of the validation phase—those which enabled us to better characterise our game prototype—and examine how this characterisation can enhance future research on walking simulators.

Defining the Player's Experience

John Dewey's pragmatist philosophy continues to inspire researchers, especially in philosophy and education (e.g., Chiapello, 2017; Deen, 2011; Schön, 1983, 1987, 1992). We propose to use Dewey's conceptual framework, specifically the concept of aesthetic experience, to explore a player's subjective experience during gameplay.

Deweyan Conception of the Experience

According to Dewey (1934), the term "experience" refers to an organism's natural process of adaptation to its environment. Dewey later refers to this process as "transactional" (see also Dewey, 1938). Through transactional processes, knowledge is created by experience and action. Thus, human beings must adapt, define, solve, and understand problems that emerge from problematic situations. In other words, in transactions with our environment, we must transform the situation into a more satisfactory version.

Dewey (1938) adds the key principle of "continuity of experience" to the concept of experience; this principle refers to the concept of a person's "habits." He posits that habits are constructed from one experience to another, and, in the process, they change a given quality of the previous habit. This conception of habit is profound:

> [I]t covers the formation of attitudes, attitudes that are emotional and intellectual; it covers our basic sensitivities and ways of meeting and responding to all the conditions which we meet in living. (p. 35)

Thus, Dewey incorporates the personal, intellectual, and moral development of an individual to the principle of continuity of experience, and, consequently, to the educational experience.

In his view, "reflective thinking" allows us to act according to the possible consequences of the phenomena observed; thought becomes a language by which one can foresee, project, deliberate, and interpret according to the meaning of observed signs. Thought/thinking offers the possibility of a deliberate and intentional activity to critically question the reasons (habits of beliefs and opinions) for acting:

> Thought affords the sole method of escape from purely impulsive or purely routine action ...When there is thought, things present act as signs or tokens of things not yet experienced. A thinking being can, accordingly, act on the basis of the absent and the future. (Dewey, 1910, pp. 15–16)

Finally, thought confers different meanings, status, and value to things, objects, and events because they can be seen as signs of other things: "each has a definite individuality of its own, according to the meaning that it is used to convey" (Dewey, 1910, p. 19).

When a lived experience involves a series of actions taken as a unified, coherent, complete, and satisfactorily whole by an individual, Dewey (1934) describes this type of experience as "aesthetic":

> A piece of work is finished in a way that is satisfactory; a problem receives its solution; a game is played through; a situation, whether that of eating a meal, playing a game of chess, carrying on a conversation, writing a book, or taking part in a political campaign, is so rounded out that its close is a consummation and not a cessation. Such an experience is a whole and carries with it its own individualising quality and self-sufficiency. It is an experience. (p. 37)

Artists aim precisely to create aesthetic experiences and to make sense of them through the work they produce. However, Dewey maintains that aesthetic experience, which refers to the pragmatist model of situated creativity, is possible for all human beings: "new variations of action are generated by the tension of problems contained in situations, ... whereas all actions involve experiences of some kind" (qtd. in Joas, 1996, p. 139). In this sense, as Joas (1996) observes, Dewey "brings out the holistic and coherent nature of certain experiences which seem almost of themselves to stand above the flow of multifarious experiences" (p. 139). Through a "rounded" experience, unified and

total, humans create new meanings. In other words, this is a process that creates new aspects of reality and new possibilities of experience. Moreover, according to Joas (1999), this quest for meaning is linked to the development of individuals, the constitution of their ideals, and the formation of their desires and goals . An experience therefore becomes aesthetic when individuals give meaning to their actions.

Difference Between Device and Situation

We now refer to Weisser (2010) to distinguish a didactic device from a learning situation. This distinction fits partly into the concept of the teacher staging a medium for learning through a didactic device. According to Weisser, the learning mediation can take the form of a technical device, which is the virtual result of an engineering work devised by the teacher. Signs and artefacts are made available to the subject so that their relationship to the world can become a source of learning. Weisser points out that the situation is inversely much richer, since it corresponds to "what is actually achieved, to what is experienced by the protagonists of the educational relationship, here and now; in a sense, the situation determines the subjects" (p. 294, free translation). Weisser also refers to Dewey's theory of inquiry to define the learning situation, which is subjective to each student. Teachers cannot simulate an entire situation through a didactic device for their students. Rather, the didactic device leaves a space for each student's freedom of interpretation, choices, and possibilities for play (Weisser, 2010).

Research Project

The initial inquiry by the researcher-designer Alexandra Beauchemin was originally focused on the design of a reflective experience mediated by video games. The researcher-designer thoroughly documented her design process, which led to the creation of a playable video game prototype called *Intervalle*. In the next section, we briefly present the epistemology underpinning our practice-based research, as well as the methodological approach used. Then, we present the outline of the game design project, followed by the playable video game prototype we developed. Finally, we present a summary of the validation by the player in the results section.

Project-Grounded Research

Our research perspective fits into the pragmatist trend of design theories seeking to better describe the design thinking process (Dalsgaard, 2014; Rylander, 2012). In order to produce relevant and important knowledge for game design practice, we use the epistemology of practice developed by Schön (1987; 1983). This approach helped us reflect on our game design process.

Although Schön (1983) draws on Dewey's theory of inquiry and reflective thinking, his perspective is constructivist: The design activity implies a process of (re)constructing meaning that can lead to a better

understanding of a situation and a co-evolving problem and solution. According to Schön (1983), the "swamps" of real situations require practitioners to "reflect-in-action," that is, to build knowledge in action and to test conjectures through experiments.

Our game design project is based on the qualitative methodological approach of project-grounded research (Findeli, 2004), which draws on research "through" design (Frayling, 1993-94), i.e., through the practice of the designer-researcher. This approach helped lend both scientific value and relevance to our research. Project-grounded research is a type of active research located and engaged in the field of a design project; the "project" is the equivalent of the field of investigation in the social sciences or of the laboratory in experimental research (Findeli, 2004). The documentation of the entire project and the most salient moments of the design-researcher's process were carried out by means of a "practice journal" (*journal de pratique*) (Baribeau, 2005).

Game Design Project and Prototype

The project lasted 10 months and was comprised of common design process phases (ideation, pre-prototypes, conception, prototyping, validation). Prior to the prototyping phase, we wanted to develop a unique and personalised video game for an individual player. We decided to address the game to Florence, aged 19, for two main reasons: (1) she is familiar with games and gaming culture and (2) she tends to share her concerns regarding her daily life with her sister. To support the "aesthetic" effect of Florence's experience, we considered it essential that she did not expect to be the main subject of the game.

The prototyping stage lasted four weeks and involved two students (a level designer and a 3D artist). Prototyping consisted in operationalising the design of the experience in the form of a playable game. The main technological components of the game were 3D environments and minimalist mechanics built in Unreal Engine 4. Since the player can "walk" in the game without any time constraint, competitiveness, or reward system, this gameplay shares key characteristics with games categorised as walking simulators.

Figure 1. Screenshots of *Intervalle*: (top-left) childhood house; (top-right) inn room; (bottom-left) university classroom; (bottom-right) future apartment.

The game begins inside the house where both the player and designer lived during their childhood and adolescence (see Figure 1). In this environment, the player is invited to collect several significant objects evoking memories (such as family photos, a SNES console, and letters). When these items are collected, the player can unlock a bedroom door and access a memory scene (for example, the garden behind their home where the player used to play as a child). There, the player can explore and collect other letters and objects. As an example, the player can interact with a specific object (a radio) and trigger the actual recording of her grandmother's voice with whom she is very close in real life.

> *Grandma: "Hello, it's grandma. I hope you're okay. I wanted to see how you're doing. I heard you're going away on a trip? So, I wish you a lot of fun and I hope everything will be fine. I miss you and I love you lots. Bye bye"* [originally recorded in French].

Based on this interaction, the player is encouraged to infer that a theme such as "travelling" will be introduced next. During the player's exploration, the designer also stimulates different reflections by sending a SMS to her sister in the game.

> *Designer/older sister: There are so many things that we accumulate over the years. Objects, memories that we want to keep and some not so much. I remember the house as if it was yesterday. Then, not so long after, you were getting ready to go on a trip by yourself. You were looking for a bag big enough to hold everything you wanted to bring with you* [originally recorded in French].

The progression of the game leads Florence to visit past and recent memories: an inn room in Berlin, a classroom from the university where she was studying at the time, and so on. The game ends in an apartment room filled with storage boxes. The player understands that it

is a representation of her future apartment in which she finds all the objects previously collected during the exploration of her memories.

The iterative development of the prototype involved several complex phases that extend beyond the scope of this article, and so we will not explain every detail. Essentially, the team worked through multiple iterations by evaluating the results (design consistency, interactions, intelligibility of the signs, feedback, etc.) in the game engine. The prototyping phase allowed us to give in-depth meaning to the game design process. We synthesised three interrelated and constant design "reasonings" on specific conditions operating in a dynamic and circular fashion (see Figure 2):

- **Red condition**: Defining the virtual signs that represent the main references to Florence's life;
    - Florence's familiarity with her childhood home, family pictures, SNES console, etc.
- **Green condition:** Imagining and writing scenario-based situations that can trigger interpretation, questioning, and stimulate a reflective tendency for the player;
    - Exploring specific situations through her memories such as the radio triggering her grandmother's voice and collecting objects in her old college classroom
- **Blue condition**: Developing a prototype made of technological constraints in Unreal Engine 4 (UE4) to integrate the virtual environments and references.
    - Level artist creating 3D environments and objects, level designer programming triggers and interactions

Finally, these three conditions had to be articulated together and interpreted as a whole, as they were interrelated for reasoning on the whole game-mediated experience. It is only through "bridging" (Cross, 2006) partial sub-solutions for each condition and sharing relevant elements between each of them that the tailored experience was designed (this is represented by the arrows). For example, the references and situations had to be understood and created by the level designer for integration in the game engine.

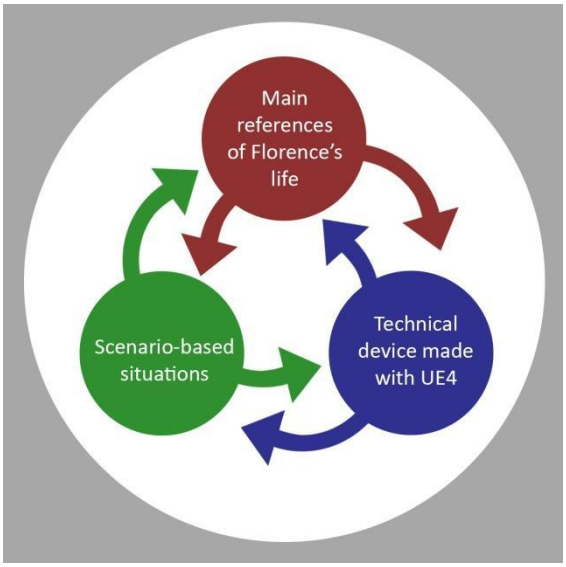

Figure 2. Circular and dynamic model of the three design conditions for an experience-meditated simulator

The design project ended with the final validation phase—a playtest session with Florence. In the next section, we describe this final phase and synthesise the reflections expressed by the player.

Final Results (From Playtesting)

The final validation phase of the design project helped us to understand the experience of a unique player during her initial playtest, as well as subsequent discussions in the following weeks. First, let us summarise the sequence of events of the final validation phase:

1. Florence played for the first time during a playtest;
2. Alexandra had discussions with Florence immediately after the playtest;
3. Over the following two weeks, Florence replayed the game by herself;
4. After two weeks, Alexandra talked again with Florence, at which time Florence shared additional insights.

Validation of the Experience by the Player

(1) First, the playtest session was held at the house of the two sisters' parents. Although Florence was informed of a playtest, she did not expect a game tailored to her. During the playtest, Florence did not speak directly to the researcher, but rather, addressed several questions out loud.

(2) Once Florence had finished the game, we started to debrief her. Based on her feedback, Florence seems to have experienced a moment that we can qualify as "aesthetic," but not for the reasons that we

initially anticipated. Through the questions that she formulated out loud during the test, Florence gave us clues that an initial reflection had begun.

(3) Following this session, we gave Florence space to process her experience and overcome her initial surprise. After a few days, Florence informed us through short verbal discussions that she replayed *Intervalle* several times because she felt that she had not yet formulated clear answers to the questions raised in the game.

(4) After two weeks, Florence met with us to share new insights and recount how they had evolved since the initial playtest into a transformed vision of her relationships with her relatives and her current concerns regarding her future.

Florence's Aesthetic Experience

Based on Florence's initial reactions, it was primarily her understanding that the game was tailored for her that had the greatest impact, lending her experience an "aesthetic" quality according to the Deweyian sense previously described. Thus, it was more the intentional context than the artefact/game itself that had the most significance for the player. Florence's words indicate that she actually had an aesthetic experience through her first understanding of the intention of the game:

> Florence: *At first, I thought this was a little creepy. Seeing things that are part of my life recreated is kind of overwhelming. … I felt nervous at first, but then very touched. It's a very nostalgic feeling* [originally recorded in French].

> Florence: *Clearly, this [the experience] is something that will influence me. Having someone making a whole game for me is a pretty big deal… This made me think of the people around me who were listening to me and caring for me this whole time. Now, if I had to make a game about someone, I wonder what I would create* [originally recorded in French].

After a few days, Florence became aware that the game had indeed provided an external perspective (that of her sister) on her own life and concerns. The interactive and virtual world created from her sister's interpretation of her most significant memories provided Florence with access to a different point of view. Thus, Florence was able to understand that all the references, objects, letters, and interactions chosen by her sister to construct the game represented her sister's interpretation of Florence's "inner world." Through this perspective, Florence was then able to undertake a series of deeper reflections. In short, Florence's understanding that a close relative had interpreted her life questions and concerns led to an "aesthetic" moment. For Florence, the gaming experience takes the form of a validation, an external recognition of what she is currently going through in her life. The

aesthetic experience lived by the player exceeds the playtest session and is more related to an intimate conversation between sisters (or between designer and player) about understanding and actualising the concerns referenced in *Intervalle*.

The letters, which are Florence's favourite elements of the game, illustrate our point. According to Florence, the letters allowed her to better contextualise and understand the major themes addressed by her sister. During the conception phase, the designer chose different texts that would, hopefully, place Florence in a thoughtful state. Throughout the initial playtest session, Florence was pleasantly surprised at the accuracy of the letters and how their literary style resembled what she wishes to be able to write herself one day.

The letters sparked a series of questions about how her sister, and even other people, interpret her personal tastes.

> Florence: *The letters made me think of how people perceive me from the outside and the things that I remind them of. Reading the letters makes me think: Ah! This is what people see when they think of me? That's interesting. … Also because I hope to be able to write in that style some day* [originally recorded in French].

During the validation phase, a first set of questions was voiced out loud by Florence, which indicates an initial step into a reflective process. During the follow-up of her first playtest, Florence's feedback indicated that the game and its context both contributed to deepening her reflective process. Understanding someone else's perspective regarding their own questioning seems to have been the most significant triggering element in initiating her reflective process.

As mentioned earlier, the Deweyan concept of continuity of experience addresses the formation of habits that can be rooted in emotional and intellectual attitudes (Dewey, 1938). This helps us understand the evolution of Florence's reflection from a more basic reaction during her initial playtest of *Intervalle* to a more profound introspection about her relationship with her relatives as she replayed the game by herself.

In the end, Florence's newly constructed take on her relationship with her sister and loved ones refers to the "empathetic" realisation that another person can understand, or wish to understand, her concerns and questionings. She was able to feel that someone cared about her. Based on these results, we will now discuss how the walking simulator genre can facilitate this empathetic relationship between designers and players, given its rich potential for exploration-based mechanics and space for elaborated visuals.

Discussion

Our initial intention was to create a game (not specifically a walking simulator-type game) that invites reflection. However, after completing

the prototype, we observed several similarities with walking simulators. The validation with Florence indicated that she engaged in a significant reflection that led to a transformation of her thoughts and perspective. We can therefore view our prototype as a walking simulator and confirm that it can spark a reflective aesthetic experience for the player.

In our case, only one player was involved in the exploration of our reflective experience and design conditions. We are aware that the results of our study have limitations and so cannot be generalised. We hope to see new explorations of this type of experience with other users in other game design studies.

From Reflective Experience to Reflective Simulator

Once again, we prefer to refer to our prototype as a reflective simulator as this allows us to highlight its capabilities, rather than its limitations (Clarke, 2017). This terminology allows for a better description and appreciation of our actual intentions regarding the desired game experience. Mostly, however, it indicates the transformative and life-changing potential of our game.

We now propose four essential characteristics to define our reflective simulator, which we schematise in Figure 3. Each of the first three characteristics refers respectively to a condition observed throughout our design process. Characteristic 1 is that the designer must have a thorough and empathetic understanding of the user. Characteristic 2 refers to the technical components of our prototype: the game must be composed of game mechanics conducive to exploration, wandering, investigation, or discovery. Characteristic 3 refers to the understanding and development of a specific context for the selected user, crafted as an in-game situation. Characteristic 4 is the next step, where these three conditions must be addressed holistically and operate in a dynamic and circular way. The arrows in the schema illustrate the interrelations, the sharing, and the bridging between the three conditions.

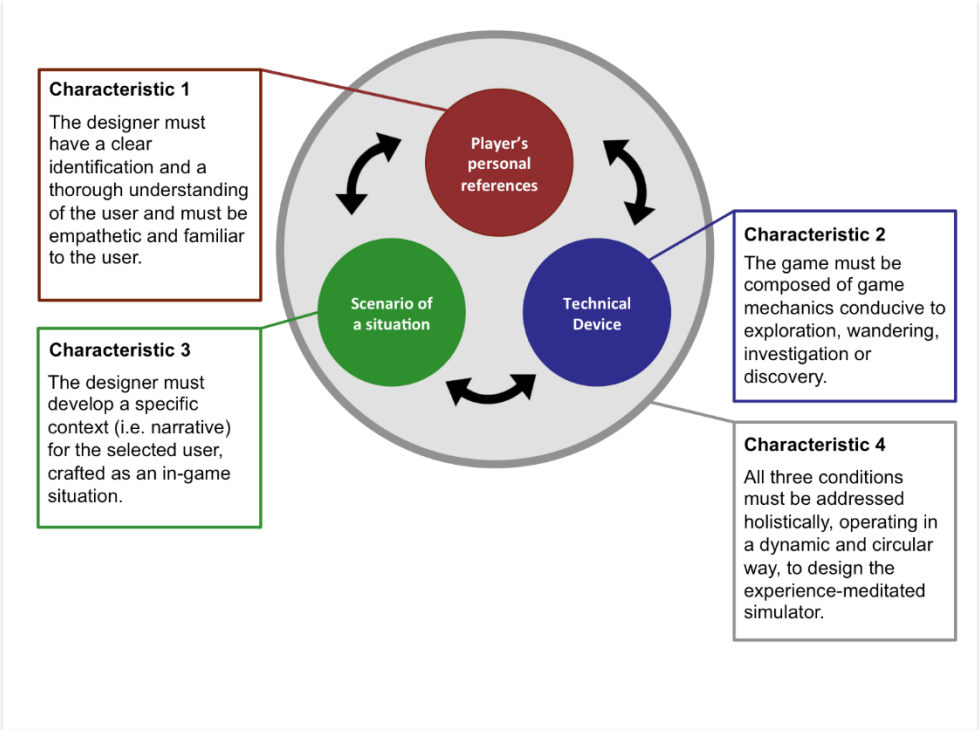

Figure 3. The four characteristics of our reflective simulator

Adding to Theoretical Discussions about Walking Simulators

Regarding walking simulator-type games, our conception of a reflective simulator highlights the possibility of developing a subjective experience that is aesthetic, reflective, introspective, and meaningful to the player. Instead of defining our device in terms of its limitations (Clarke, 2017), we defined it in terms of its capabilities, especially regarding its potential to encourage interpretation, construction of meaning, questioning, and reflection.

The reflective simulator offers the possibility of designing a game for a purpose other than fun, reward, or competitiveness. Rather, it provides an intimate interpretative exercise. In this sense, the player can gain new understanding and transform their perspective by playing the game and subsequently reflecting on its creation context. For these reasons, we believe the reflective simulator sheds light on the intersubjective and empathetic mutual understanding that can exist between the designer and the player.

As a way to add to the discussions on walking simulator-type video games, we therefore propose that developers, critics, and researchers pay more attention to the design of tailored situations for the players. While it is possible to craft intimate situations in sandboxes, the designer cannot expect specific interpretations from players or fully anticipate what the player wants to experience or what they will understand. Conversely, we argue that the player should have the freedom to understand and reflect on their own perspective.

We believe that Dewey's concept of aesthetic experience can be a useful conceptual tool to guide game designers. It can enrich our understanding when it comes to reflecting and constructing meaning during aesthetic moments such as the "aesthetic practice of walking" (Carbo-Mascarell, 2016). In particular, the Deweyan conceptual framework also highlights the capabilities of simulators to mediate subjective, significant, and transformative experiences. This framework helps to conceptualise a richer understanding of the game experience beyond the traditional and ambiguous "fun factor."

Practically, the research in this work allowed us to lead a game design project by going through relevant steps such as ideation, prototyping and validation by the player. We believe it is essential that the knowledge produced on games and players also derives from the point of view of designers. In this sense, the reflective simulator can be understood as a theorisation of the game experience mediated by a walking simulator in a particular and singular case.

Conclusion

This article was intended as a contribution to theoretical and methodological discussions addressing video games known as walking simulators. The research problem started by tackling a debate around the terminology of such a game. We also identified some theoretical shortcomings regarding the gaming experience, as well as some methodological flaws relating to research in practice. We used a conceptual framework based on Dewey's aesthetic experience definition to develop a richer and more subjective view of the player's experience. Our perspective based on research in practice led us to realise a design project and develop the prototype of an experience mediated by a video game similar to a walking simulator and targeted at a specific player. We briefly discussed the project, the intentions, the design process, the unique user, as well as the game itself. We presented and analysed the results obtained by the player during the validation stage. These results indicate a particular aesthetic experience for the player. Together, the synthesis of these results with the altruistic intentions of the designer allowed us to identify key features of our game, which led us to categorise it as a reflective simulator. The characteristics of our game thus highlight the potentialities of walking simulators in mediating richer or even transformative experiences in players. In this sense, the concept of the reflective simulator can serve to broaden knowledge in the field of games studies.

Reflexivity of the Designer-Researcher

Despite the results obtained from validation by the player, the initial goal of the design project was to explore the game design process and the prototyping of a playable video game. The validation by the player was not a specific goal of the project, even though it was considered important for the appreciation of the game, as well as the value of the

ultimate experience. In our opinion, future research should be conducted to better validate the subjective experience of single and unique players. In agreement with the desired subjectivity of qualitative research, the case observed led to insights that would not have been obvious without prior knowledge of the user by the researcher-designer. Through our findings, we wish to raise questions among future designers who, like us, would want to create unique and memorable experiences in adopting an empathetic attitude towards their users.

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